

CLAIMS

1/ Addressing scheme to be used in an IP-based Radio Access Network, said Radio Access Network comprising a plurality of base stations and at least one base station controller, all communicating with each other by using an TCP/IP-
5 or UDP/IP-based protocol stack, each of said base stations being adapted to communicate with a plurality of radio terminals having access to said Radio Access Network over at least two different types of radio channels, said addressing scheme being characterized in that the type of radio channel over which said base station communicates with one of said radio terminals is
10 implicitly and univocally determined by a port number mentioned in each TCP or UDP data packet exchanged over said Radio Access Network and belonging to a communication with said radio terminal.

2/ Addressing scheme according to claim 1, characterized in each of said
15 radio channel types is associated to at least one of said port numbers available at a base station or at a base station controller of said Radio Access Network,.

3/ Addressing scheme according to claim 1, characterized in that said IP-
20 based protocol stack used in said IP-based Radio Access Network comprises

UDP/IP combination, the UDP destination port number in said UDP header determining univocally said radio channel type.

4/ Addressing scheme according to claim 1, characterized in that said IP-based protocol stack used in said IP-based Radio Access Network comprises UDP/IP combination, the UDP source port number in said UDP header determining univocally said radio channel type.

5/ Addressing scheme according to claim 1, characterized in that the parameters of a communication with said radio terminal are defined by an IP address, a UDP destination port number, and a communication identifier contained in the different layers of said IP-based protocol stack used in said Radio Access Network.

6/ Base station to be part of an IP-based Radio Access Network and communicating with other elements of said Radio Access Network by using an IP-based protocol stack, said base station being adapted to communicate with a plurality of radio terminals having access to said Radio Access Network over at least two different types of radio channels, said base station comprising a channel type selector to determine the channel type on which data coming from said Radio Access Network have to be transmitted to one of said radio terminals, said channel detector determining univocally said channel type by means of a port number mentioned in the TCP or UDP header of a data packet received from said Radio Access Network and belonging to a communication with said radio terminal.

7/ Base station according to claim 6, characterized in that said channel selector further selects a port number to be used in said IP-based protocol

stack to forward data to said Radio Access Network depending on the channel type on which said data are received from one of said radio terminals.

- 8/ Radio Network Controller to be part of an IP-based Radio Access Network
- 5 and communicating with other elements of said Radio Access Network by using an IP-based protocol stack, said Radio Network Controller receiving from outside of the Radio Access Network data belonging to a communication with a radio terminal, said radio terminal being accessible over at least two different types of radio channels, said Radio Network Controller comprising a
- 10 channel type selector to determine, according to said data belonging to said communication, the channel type on which a part of said data belonging to said communication have to be transmitted to said radio terminal, said channel detector determining univocally, according to said channel type, a port number to be mentioned in each TCP or UDP data packet exchanged
- 15 over said Radio Access Network and belonging to said communication with said radio terminal.